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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/473,575	12/28/1999	Darrell D. Boggs	042390.P6871	1163

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD, SEVENTH FLOOR
LOS ANGELES, CA 90025

EXAMINER
VO, LILIAN

ART UNIT	PAPER NUMBER
2127	11

DATE MAILED: 09/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	09/473,575	BOGGS ET AL.	
	Examiner	Art Unit	
	Lilian Vo	2127	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 July 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *62-70* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *62-70* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4-7* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Claims 62 – 70 are presented for examination.

Election/Restrictions

2. Applicant's election without traverse of Group III (claims 62 – 70) in Paper No. 10 is acknowledged.

3. Claims 1 – 61 and 71 – 83 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 10.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 62 – 70 are rejected under 35 U.S.C. 102(e) as being anticipated by Levy et al. (US Pat. Application Publication 2001/0004755 A1, hereafter referred to Levy).

Regarding **claim 62**, Levy discloses a processor comprising:

an instruction delivery engine to store and fetch instructions either from one or more threads based upon a current processing mode (page 4, paragraph 0059 – page 5, paragraph 0060); and

an allocator to receive instruction from the instruction delivery engine and to perform allocation in a resource based upon the current processing mode (page 4, paragraph 0059 – page 5, paragraph 0060, page 5, paragraph 006).

Regarding **claim 63**, Levy discloses the processor of claim 62 wherein the allocator assigns the entire resource to the thread that is active if the processing mode is single threading (page 8, paragraph 0089, 0091 – 0092, and page 14, paragraph 0141).

Regarding **claim 64**, Levy discloses the processor of claim 62 wherein the allocator assigns a portion of the resource to each of the threads running concurrently if the current processing mode is multithreading (page 6, paragraph 0077, page 8, paragraph 0091 – 0092, and page 14, paragraph 0141).

Regarding **claim 65**, Levy discloses the processor of claim 63 wherein the allocator allocates an amount of entries for the instructions from the active thread in the resource if the resource has sufficient available entries and wherein the allocator activates at least one stall signal if the resource does not have sufficient available entries (page 7, paragraph 0084, page 11, paragraph 0120, page 8, table 3).

Regarding **claim 66**, Levy discloses the processor of claim 64 wherein the allocator allocates an amount of entries for the instructions from each respective thread in the respective portion if the respective portion has sufficient available entries and wherein the allocator activates at least one stall signal if the respective portion does not have sufficient available entries (page 7, paragraph 0084, page 11, paragraph 0120, page 8, table 3).

Regarding **claim 67**, Levy discloses the processor of claim 66 wherein the instruction delivery engine uses the at least one stall signal to perform its corresponding function (page 7, paragraph 0084, page 11, paragraph 0120, page 8, table 3).

Regarding **claim 68,** Levy discloses the processor of claim 67 wherein the instruction delivery engine re-fetches the stalled instructions in the respective thread to the allocator if the at least one stall signal is activated (page 5 – 6, paragraph 0068, and page 7, paragraph 0084).

Regarding **claim 69,** Levy discloses the processor of claim 67 wherein the instruction delivery engine fetches a subsequent instruction from another thread to the allocator if the at least one stall signal for the respective thread is activated and said another thread is not stalled (page 4, paragraph 0053, page 7, paragraph 0084, page 11, paragraph 0120, page 8, table 3).

Regarding **claim 70,** Levy discloses the processor of claim 67 wherein the instruction delivery engine fetches an invalid instruction to the allocator if the stall signal for the respective thread is activated (page 10, paragraph 0115).

6. Claims 62 – 70 are rejected under 35 U.S.C. 102(e) as being anticipated by Rodgers et al. (US 6,496,925, hereafter referred to Rodgers).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding **claim 62**, Rodgers discloses a processor comprising:

an instruction delivery engine to store and fetch instructions either from one or more threads based upon a current processing mode (col. 4, lines 45 – 64, col. 8, lines 1 – 27, and fig. 1); and

an allocator to receive instruction from the instruction delivery engine and to perform allocation in a resource based upon the current processing mode (col. 4, lines 45 – 64, col. 8, lines 1 – 27, and fig. 1).

Regarding **claim 63**, Levy discloses the processor of claim 62 wherein the allocator assigns the entire resource to the thread that is active if the processing mode is single threading (col. 10, lines 16 – 22 and fig. 2 and col. 21, lines 31 - 52).

Regarding **claim 64**, Levy discloses the processor of claim 62 wherein the allocator assigns a portion of the resource to each of the threads running concurrently if the current processing mode is multithreading (col. 8, line 63 – col. 9, line 20, col. 10, lines 16 – 22, fig. 2, col. 21, line 66 – col. 22, line 17, and col. 23, lines 10 - 52).

Regarding **claim 65**, Levy discloses the processor of claim 63 wherein the allocator allocates an amount of entries for the instructions from the active thread in the resource if the resource has sufficient available entries and wherein the allocator activates at least one stall signal if the resource does not have sufficient available entries (col. 10, lines 16 – 22 and fig. 2, col. 21, lines 31 – 52, col. 23, lines 10 – 52 and fig. 14).

Regarding **claim 66**, Rodgers discloses the processor of claim 64 wherein the allocator allocates an amount of entries for the instructions from each respective thread in the respective portion if the respective portion has sufficient available entries and wherein the allocator activates at least one stall signal if the respective portion does not have sufficient available

entries (col. 8, line 63 – col. 9, line 20, col. 10, lines 16 – 22, fig. 2, col. 21, line 66 – col. 22, line 17, and col. 23, lines 10 - 52).

Regarding **claim 67**, Rodgers discloses the processor of claim 66 wherein the instruction delivery engine uses the at least one stall signal to perform its corresponding function (col. 8, lines 1 – 27, fig. 2).

Regarding **claim 68,** Rodgers discloses the processor of claim 67 wherein the instruction delivery engine re-fetches the stalled instructions in the respective thread to the allocator if the at least one stall signal is activated (col. 26, lines 51 - 64).

Regarding **claim 69,** Rodgers discloses the processor of claim 67 wherein the instruction delivery engine fetches a subsequent instruction from another thread to the allocator if the at least one stall signal for the respective thread is activated and said another thread is not stalled (col. 10, lines 16 – 22, col. 23, lines 10- 52, and fig. 14).

Regarding **claim 70,** Rodgers discloses the processor of claim 67 wherein the instruction delivery engine fetches an invalid instruction to the allocator if the stall signal for the respective thread is activated (col. 12, lines 45 - 64).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Pat. 6,182,210 B1, US Pat. 6,357,016 B1, and US Pat. 6,247,121 B1.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lilian Vo whose telephone number is 703-305-7864.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Lilian Vo
Examiner
Art Unit 2127

lv
September 3, 2003

MAJID A. BANANKHAH
PRIMARY EXAMINER